ANDRIANOV, A., inzh.

Refrigerator plants. Rech. transp. 19 no.10:57 O '60. (MIRA 13:11)

(Refrigeration on ships)

SOV/130-58-7-21/35

AUTHOR: Andrianov, A.

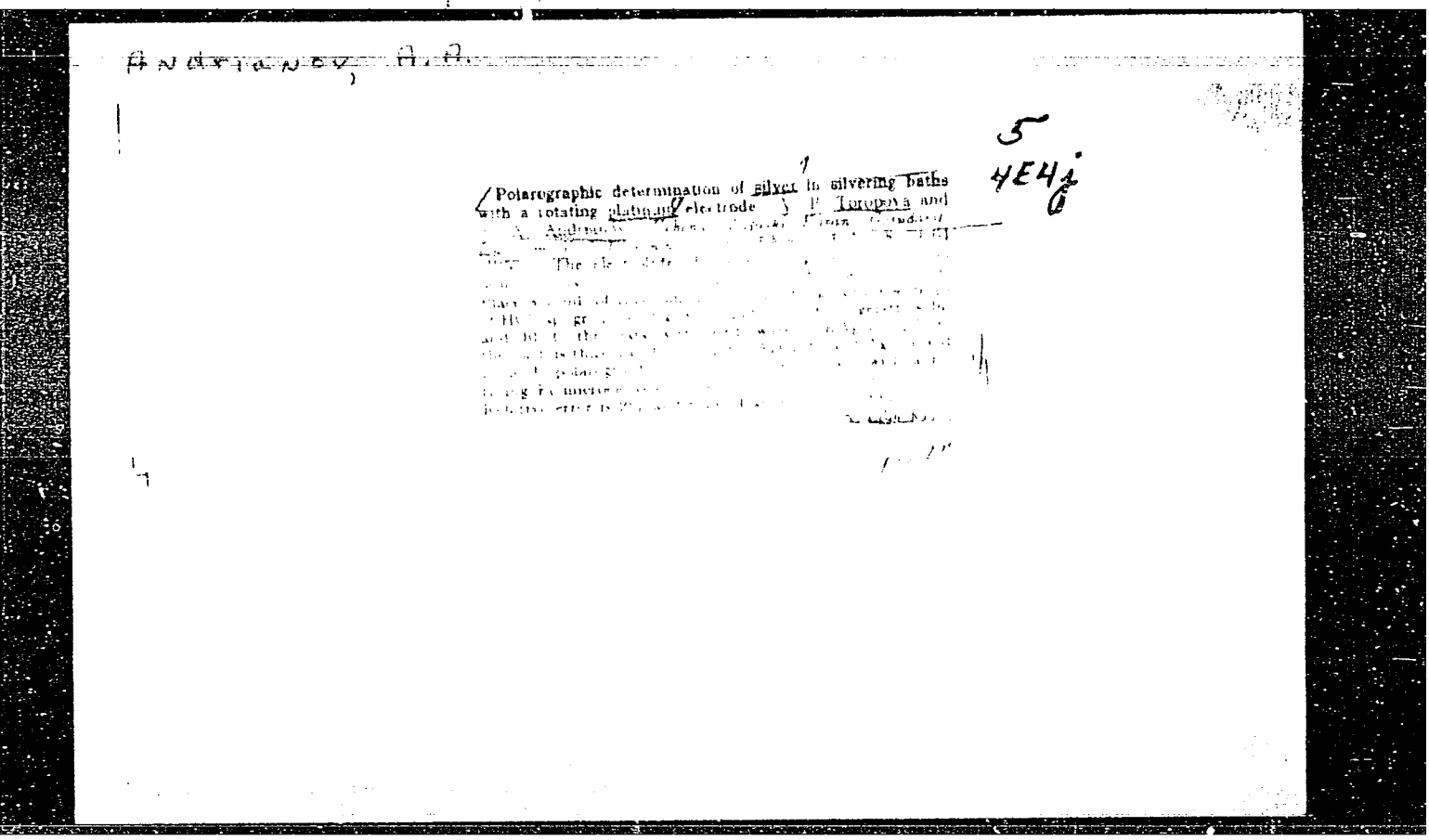
TITLE: By Hard Work (Trudovoy put')

PERIODICAL: Metallurg, 1958, nr 7, p 37 (USSR)

ABSTRACT: The author gives a very brief, biographical sketch of the senior sinter-plant operator at the Cherepovetskiy metallurgicheskiy zavod (Cherepovets Metallurgical Works), Nikolay Dmitriyevich Gorbunov, who was trained at Magnitogorsk. There is 1 figure.

ASSOCIATION: Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

Card 1/1 1. Sintering plant operators--USSR 2. Personnel--USSR



Polarographic determination of silver in silvering baths with a rotating platinum electrode

ANDRIANOV, A.A.

137-1957-12-23267

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 59 (USSR)

AUTHORS: Sobol', A. B., Andrianov, A. A.

TITLE: Operational Experience With the KU-60 Recovery Boilers at the Voroshilov Plant (Opyt raboty kotlov-utilizatorov KU-60 na zavode im. Voroshilova)

PERIODICAL: V sb.: Kotly-utilizatory martenovsk. pechey. Moscow, Metallurgizdat, 1957, pp 123-130

ABSTRACT: Following are the basic pre-requisites for reliable operation of recovery boilers (RB) operating with open-hearth furnaces: prevention of the formation of flakes, cleaning of the heating surfaces, and an adequate supply of feed water. In order to prevent the formation of flakes, special coke-gas operated burners are installed in the gas flue connecting the reversing devices with the RB. Two double burners ignite the unburned components contained in the waste gases, and thus prevent the formation of flakes entirely. Blasting with superheated steam did not prove efficient. The heating surfaces are effectively cleaned by washing with purified feed water at a 100° temperature and 25 atu pressure.

Card 1/2

Operational Experience with the KU-60 Recovery Boilers (cont.)

This procedure requires 20 min and is performed once or twice per shift. After 30 days the RB's are stopped and subjected to a thorough cleaning, an operation which requires 8-16 hrs. The capacity of the RB's varies from 3.1 t/hr, and the volume of the gases from 27,000 nm^3/hr at a temperature of 450°, to 9.1 t/hr, and 700,000 nm^3/hr respectively at a temperature of 500°. The cost of steam generated by the RB is 1.8 times cheaper than the steam produced at the plant's boiler-room.

Ye. N.

1. Boilers-Operation 2. Furnaces-Applications

Card 2/2

137-58-5-11119

ANDRIANOV, A-A.

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 316 (USSR)

AUTHOR: Andrianov, A.A.

TITLE: Adoption of the Polarographic Analysis Method at the Central Chemical Laboratory of the Yanskiy Regional Central Geological Prospecting Administration (Vnedreniye metoda polyarograficheskogo analiza v Tsentral'noy khimicheskoy laboratorii Yanskogo rayGRU)

PERIODICAL: Tr. Vses. Magadansk. n.-i. in-ta za 1956 g. Magadan, 1957, pp 157-158

ABSTRACT: A method was developed for determination of Pb in Fe ores containing not more than 6-7% of that metal. The work was conducted on a visual polarograph of the PV-1 type (at the "Geolograzvedka" plant).

N.G.

1. Lead--Determination 2. Iron ores--Impurities 3. Polarographic analysis--Applications

Card 1/1

ANDRIANOV, Aleksandr Alekseyevich; POTEMKIN, S.V., glavnyy red.; MATSUYEV, L.P., zamestitel' glavnogo red.; SHAKHNAROVICH, L.A., red.; BEREZIN, V.P., red.; VESELOV, V.V., red.; GOLANDSKIY, D.B., red.; GOL'DTMAN, V.G., red.; IGNATENKO, M.A., red.; SHASHURA, M.V., red.; RIVKIN, G.M., red.; FIRSOV, L.V., red.; SHEPELEV, I.T.

[Methods of analytic decomposition of cassiterite and tin ores] Metody analiticheskogo razlozheniia kassiterita i rud olova. Magadan, 1962. 14 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy Obogashchenie i metallurgiia, no.53). (MIRA 16:7)
(Cassiterite—Analysis) (Tin ores—Analysis)

5.4700

S/054/62/000/003/007/010
B101/B186

AUTHORS: Shul'ts, M. M., Peshekhonova, N. V., Romanova, L. M., Andrianov, A. A.

TITLE: Study of the electrode properties of lithium alumino silicate glasses

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 3, 1962, 108 - 115

TEXT: According to the generalized ion exchange theory of the glass electrode developed by B. P. Nikol'skiy (ZhFKh, 27, 3, 1953; DAN SSSR, 140, 641, 1961), the curve E = f(pH) may have steps if the glass contains hydrogen ions with bonds of different strength. This was checked on lithium alumino silicate glasses containing 24, 27, 30, or 33 mole% Li_2O and 0 - 6 mole% Al_2O_3. The curve E versus pH was plotted by measuring the emf of the following elements:
(Pt)H_2|3 M LiOH,LiCl||saturated KCl solution, Hg_2Cl_2|Hg;
Ag|AgCl,0.1 N HCl|glass membrane|3 M LiOH,LiCl||saturated KCl solution,
Card 1/3

S/054/62/000/003/007/010
B101/B186

Study of the electrode...

There are 7 figures and 1 table. The most important English-language reference is: C. E. Eisenman, D. O. Rudin, J. K. Casby, Science, 126, 331, 1957.

SUBMITTED: July 7, 1961

Card 3/3

SHUL'TS, M.M.; PESHEKHONOVA, N.V.; ROMANOVA, L.M.; ANDRIANOV, A.A.

Study of the electrode properties of lithium aluminosilicate glasses. Vest. LGU 17 no.16:108-115 '62. (MIRA 15:9)
(Electrodes, Glass)

KISIN, Solomon Vul'fovich, prof.; ANDRIANOV, A.G.,red.;
IZHBOLDINA, S.I., tekhn. red.

[The profession of the physician is dedication; advice of an obstetrician-gynecologist to young physicians] Professiia vracha - podvig; sovety akushera-ginekologa molodym vracham. Volgograd, Volgogradskoe knizhnoe izd-vo, 1963. 140 p. (MIRA 17:1)

KUBANTSEV, Boris Sergeyevich, kand. biol. nauk; UVAROVA, Vera Yakovlevna; KOSAREVA, Nina Aleksandrovna; ANDRIANOV, A.G., red.; IZHBOLDINA, S.I., tekhn. red.

[Animal kingdom of Volgograd Province; terrestrial vertebrates] Zhivotnyi mir Volgogradskoi oblasti; nazemnye pozvonochnye zhivotnye. Pod nauchnoi red. B.S.Kubantseva. Volgograd, Volgogradskoe knizhnoe izd-vo, 1962. 191 p. (MIRA 16:4)
(Volgograd Province--Vertebrates)

137-58-2-3622

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 191 (USSR)

AUTHOR: Andrianov, A.I.

TITLE: Treatment of Porous Chromium-plated Cylinder Barrels (Obrabotka poristokhromirovannykh gil'z tsilindrov)

PERIODICAL: Remont avtomobiley. Nr 1, Moscow, Avtotransizdat, 1956, pp 251-265

ABSTRACT: Methods of treating a porous chromium surface to reduce wear are studied. The investigation was pursued in the following direction: 1) determination of requirements for the treatment of porous chromium surfaces; 2) selection of the type of network of canals on the coating surface. The laboratory tests were supplemented by test-stand testing of engines having treated porous chromium barrels. An analysis of the phenomena observed and practical recommendations are given. Treatment of porous Cr should provide class 11 surface finish as defined in GOST(All-Union State Standard) 2789-51, with honing. Optimum superfinishing procedures are presented. The optimum size of the surface area between canals is 0.5-1.0 mm^2.

Card 1/1

Ye.G.

1. Chromium coatings—Porosity—Analysis

with $C_6H_5SiCl_3$ in the presence
$AlCl_3$ -proceeds a reaction of heterofunctions
tion with the formation of polyorganosiloxanes and the
isolation of C_2H_5Cl. The heating of equimolecular amounts
of I and III for 30 min. at 95-100° in the presence of 1%
$FeCl_3$ leads to the splitting off of C_2H_5Cl, yield 65.44%.
Analogical results were obtained at the condensation of II

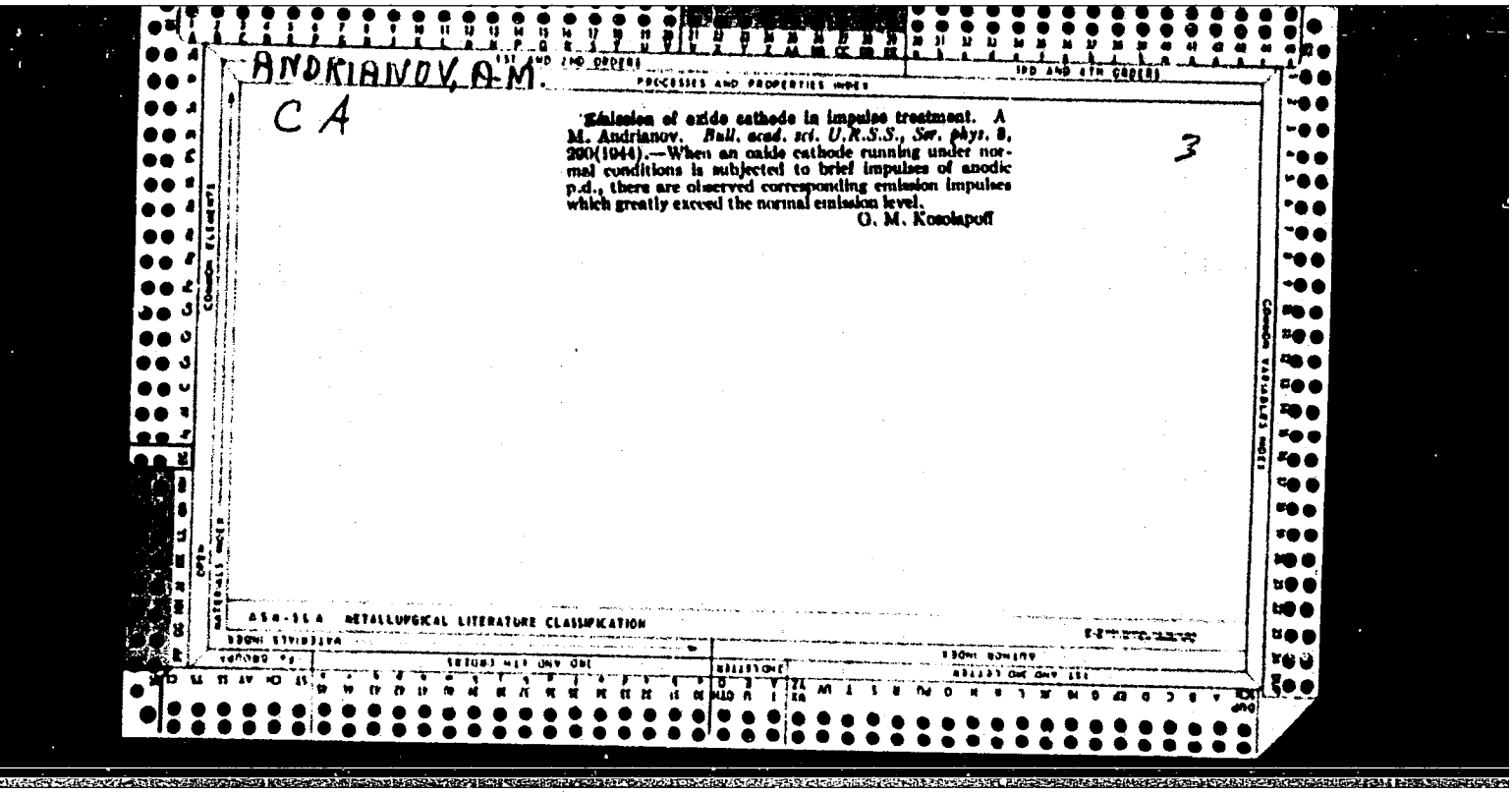
Card : 1/2

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19256.

with III. By heating 0.6 of mole I, 0.4 of mole II and 1% of $AlCl_3$ to 145-150° (5 hours) a polymer in the form of a viscous liquid (152g.) and C_2H_5Cl, yield 67.1% are obtained. $FeCl_3$ is a more active catalyst than $AlCl_3$. The mechanism of the condensation is discussed.

Card : 2/2



ANDRIANOV, A.M.

CA

3

Emission of oxide cathode in impulse treatment. A M. Andrianov. *Bull. acad. sci. U.R.S.S., Ser. phys.* 8, 200(1944).—When an oxide cathode running under normal conditions is subjected to brief impulses of anodic p.d., there are observed corresponding emission impulses which greatly exceed the normal emission level.
O. M. Kosolapoff

WE
ANDRIANOV, A. [illegible]

537.534 2078
The Emission of Oxide-Coated Cathode under Impulse Excitation.—A. Andrianov. (*J. Phys., U.S.S.R.*, 1945, Vol. 9, No. 1, p. 60.) Experiments were made using diodes with concentric cylindrical electrodes. The current impulse was of 3.4 μs duration and the repetition frequency 500 c/s. The saturation current at different temperatures was measured. The volt/amp characteristic given by this method for small values of average current differs from that given by large values. Abstract of a paper of the Acad. Sci., U.S.S.R.

Andrianov, A.M.

Category : USSR/Nuclear Physics - Nuclear Reactions C-5

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6073

Author : Artsimovich, L.A., Andrianov, A.M., Bazilevskaya, O.A. Prokhorov, Yu.G., Filippov, N.V.

Title : Investigation of Pulse Discharges with High Currents

Orig Pub : Atom. energiya, 1956, No 3, 76-80

Abstract : A brief report on the results of an experimental investigation of high-power pulse discharges with high rates of current rise. A study was made of the pulse discharges in H_2, D_2, He, Ar, and Xe at initial gas pressures from 0.005 mm Hg to several millimeters. The maximum current in the discharge was 10^5 to 10^6 amp. The discharge was fed with a voltage from 20 to 50 kv from a capacitor bank ranging in rating from several tens to 400 microfarad. The rate of current rise in the initial discharge phase was 3×10^2 -1.5 x 10^{11} amp/sec, and the duration of the current rise from zero to maximum value was 8 -- 17 microseconds. The discharge tubes used were porcelain cylinders 60 -- 100 cm long and 20 -- 40 cm in diameter. The intensity of the magnetic field was measured at various points of the discharge, as was the gas pressure.

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Card : 2/3

Andrianov, A.M.

Catogory : USSR/Nuclear Physics - Nuclear Reactions C-5

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6075

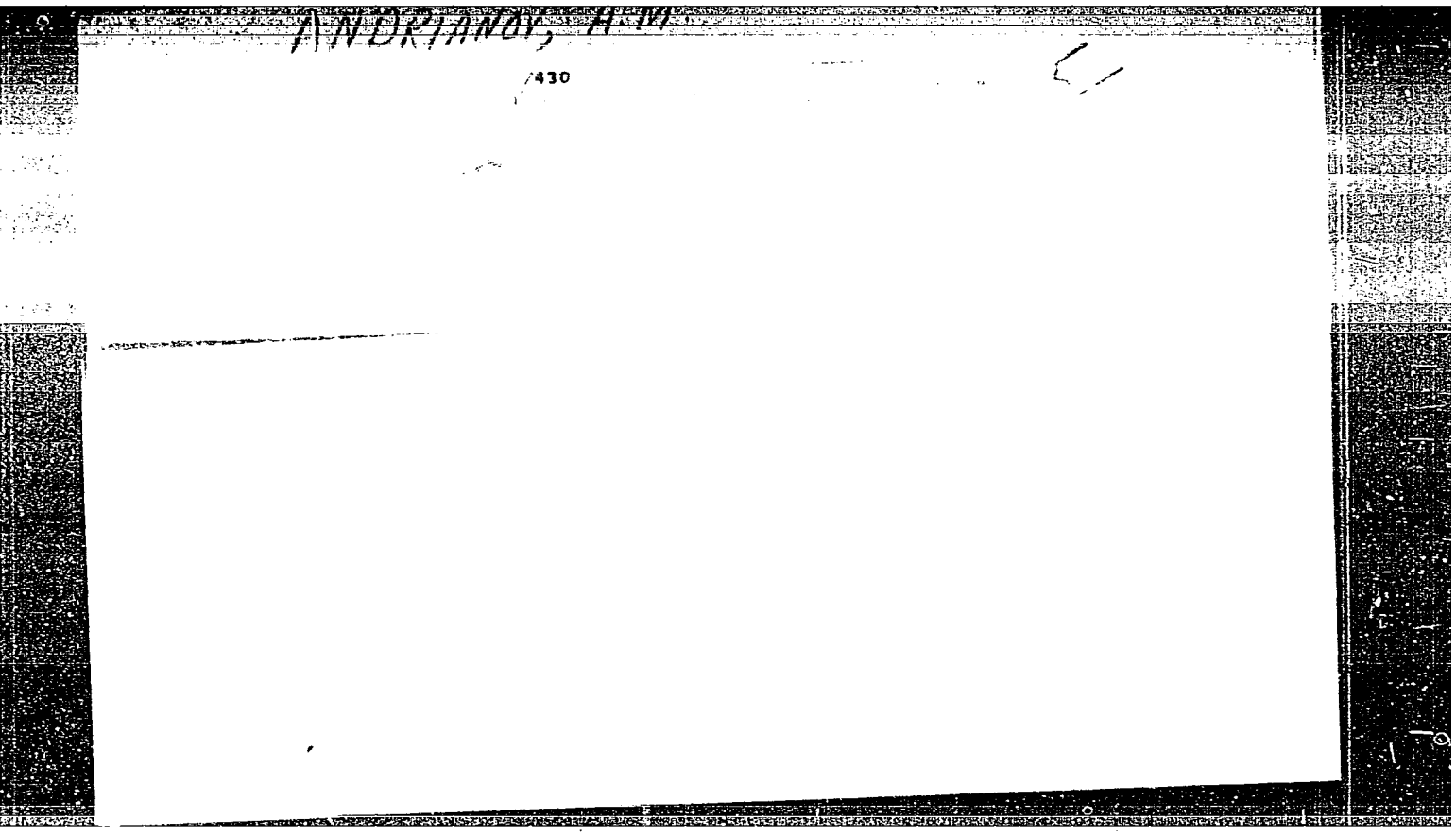
Author : Artsimovich, L.A., Andrianov, A.M., Dobrokhotov, Ye.I., Luk'yanov, S.Yu., Podgornyy, I.M., Sinitsyn, V.I., Filippov, N.V.

Title : Hard Radiation from Pulse Discharges.

Orig Pub : Atom. energyia, 1956, No 3, 84-87

Abstract : It was observed that high-power pulse discharges in light gases can be sources of hard radiation. In 1952 the authors detected neutron radiation accompanying pulse discharges in D_2. The discharges were carried out in cylindrical tubes 20 -- 40 cm in diameter, 50 -- 100 cm long. The current reached several hundreds of kiloamperes, and its rate of rise amounted to 5×10^{10} -- 1.5×10^{11} amp/sec. Silver targets were placed in paraffin blocks and scintillation counters were used to count the neutrons. In discharge tubes with porcelain walls, neutron emission is observed if the initial pressure of D_2 ranges from 0.01 to 0.3 mm Hg, while in tubes with metal sidewalls the emission is observed up to 10 mm. At a maximum

Card : 1/2



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PENETRATI...

L. A. Artsimovich ...

..., I. M. Podgornyi, V. I. Sinitsyn, and N. V. Filippov. Soviet J. Atomic Energy ...

ANDRIANOV, A. M., BAZELEVSKIYA, O. A., LUK'YANOV, S. Yu., OSOVETS, S. M., PETROV, Yu. F., PODGORNY, I. M. and YAVLINSKIY, N. A.

"Investigation of the Heating of Hydrogen Plasma in Small Toroidal Systems." (Wokk carried out in 1951); pp. 42-65.

The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. I. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

ANDRIANOV, A. M. and OSOVETS, S. M.

"Theory and Experiments on the Ignition of an Electrodeless Discharge in a Magnetic Field" (Work carried out in 1951); pp. 95-109.

The physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. I. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

ANDRIANOV, A. M., BAZILEVSKAYA, G. A. and PROKHOROVA, Yu. G.

"Investigation of the Pulse Discharge in Deuterium for Velocities of Current Rise of up to 10^{12} amp/sec and Potentials up to 120 kv." (Work carried out in 1957, 1958); pp. 182-200.

"The Physics of Plasma; Problems of Controlled Thermonuclear Reactions." Vol. IV. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

ANDRIANOV, A. M., BAZILEVSKAYA, O. A. and PROKHROV, Yu. G.

"Investigations of a Pulse Discharge in Gases for Current Strength of 500 KA" (Work - 1954, 1956); pp. 185-211.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. II, 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

ANDRIANOV, A. M.

21(0)

PHASE I BOOK EXPLOITATION SOV/2081

International Conference on the Peaceful Uses of Atomic Energy, 2d., Geneva, 1958

Doklady sovetskikh uchenykh; yadernaya fizika (Reports of Soviet Scientists; Nuclear Physics) Moscow, Atomizdat, 1959. 552 p. (Series: Its: Trudy, Vol. 1) 8,000 copies printed.

Eds. (Title page): A.I. Alikhanov, Academician; V.I. Veksler, Academician; and N.A. Vlasov, Candidate of Physical and Mathematical Sciences; Ed. of this volume: S.I. Bresdov and B.F. Zaretskiy, Candidates of Physical and Mathematical Sciences; Ed. (Inside book): G.L. Smolyan; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This collection of articles is intended for scientific research workers and other persons interested in nuclear physics. The volume contains 43 papers presented by Soviet Scientists at the Second Conference on Peaceful Uses of Atomic Energy, held in Geneva in September 1958.

COVERAGE: It is divided into two parts. Part I contains 17 papers dealing with plasma physics and controlled thermonuclear Reactions, and Part II contains 26 papers on nuclear physics, including problems of particle acceleration and of cosmic ray physics. The first paper by L.A. Artsimovich presents a review of Soviet work on controlled thermonuclear reactions. The remaining papers in Part I deal with particular problems in this field.

Papers in Part II deal in detail with various problems in nuclear physics, such as the fission of heavy atoms and their isotopes, and with the study of cosmic radiation by means of artificial earth satellites and rockets, described in a paper by S.N. Vernov. The Russian-language edition of the proceedings of the conference is published in 16 volumes. The first 6 volumes contain all the papers presented by Soviet scientists as follows: Volume (1), Yadernaya fizika (Nuclear Physics); Volume (2), Yadernyye reaktory i yadernaya energetika (Nuclear Reactor and Nuclear Power); Volume (3), Yadernoye goryucheye metally (Nuclear Fuel and Reactor Metals), Volume (4), Khimiya radioelementov i radiatsionnykh prevrashcheniy (Chemistry of Radioelements and of Radiation Transformations); Volume 5, Radiobiologiya i radiatsionnaya meditsina (Radiobiology and Radiation Medicine); Volume (6) Polucheniye i primeneniye izotopov (Production and Use of Isotopes). The other 10 volumes contain selected papers presented at the Conference by non-Soviet scientists. In the present volume discrepancies between the English and Russian language edition of the proceedings have been noted in three articles where the texts are not identical; viz; Andrianov, et al, "High Current Pulsed Discharge"; Akhiyezer, et al, "High Frequency Plasma Oscillation"; and Bogolyubov, "Investigations of the Many-body Problem". The serial numbers of reports 2302 and 2504 are reversed in the English edition. Report 2211, by Sinelnikov, et al, is numbered 2536 in the English edition.

TABLE OF CONTENTS:

Reports of Soviet Scientists; Nuclear (Cont.) SOV/2081

PART I. PLASMA PHYSICS AND THE PROBLEM OF CONTROLLED THERMONUCLEAR REACTIONS

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ANDRIANOV, A. M.

24(2)20 66702
SOV/109-4-8-22/35

AUTHORS: Granovskiy, V.L., Luk'yanov, S.Yu., Spivak, G.V. and Sirotenko, I.G.

TITLE: Report on the Second All-Union Conference on Gas Electronics

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 8, pp 1339 - 1358 (USSR)

ABSTRACT: The conference was organised by the Ac.Sc.USSR, the Ministry of Higher Education and Moscow State University.

T.B. Fogel'son - "Methods of Reducing the Energy Lost in the Formation of a Breakdown".

L.I. Pivovar and V.I. Gordiyenko - "Microdischarges and pre-breakdown Currents Between Metal Electrodes in High Vacuum".

V.A. Simonov and G.P. Katukov - "Investigation of the Processes of Initiation and Development of a High-voltage Discharge in Vacuum".

E.M. Reykhrudel and G.V. Smirnitskaya - "The Characteristics of Ignition in High-vacuum in Magnetic Fields".

L.V. Tarasova et al. dealt with the transfer of the electrode material during the pre-breakdown stage in vacuum.

N.B. Rozanov et al. - "The Motion of Micro-particles of Substances During Electric Breakdown in Vacuum".

The third section dealt with the problems of electric sparks, corona and their practical applications. It was presided over by I.S. Stekol'nikov. The following papers were read:

V.I. Levitov et al. - "Probe Investigation of the a.c. Corona Fields".

G.N. Aleksandrov - "Elementary Processes in the Ionisation Zone of Corona-type Conductors at Atmospheric Pressures".

Y.A. Burmakin - "Appearance of a Corona Discharge in Hydrogen and Nitrogen"

P.N. Chistyakov et al. - "Some Properties of the Corona Discharge in Hydrogen in Coaxial, Cylindrical System".

A.S. Sobolaxa and B.N. Klyarfel'd - "Appearance of Discharge Phenomena Between a Point and a Plane at Gas Pressures of 10^{-3} - 1.0 mm Hg".

Ya.Yu. Reynet et al. - "Methods of Unipolar Ionisation of Air By Means of Aero-Ionisers (see p 1335 of the journal).

M.P. Vanyukov et al. - "Time Spectra of the Radiation of a Spark Discharge in Inert Gases" (see p 1284 of the journal).

M.P. Vanyukov and A.A. Mak - "Production of High Temperatures by Means of Spark Discharges".

V.A. Peretyagin - "Influence of the Magnetic Field of the Electric Discharge on the Dividing Surface of Two Media".

I.S. Stekol'nikov - "New Data From the Study of Long Sparks".

M.I. Syrovyev - "Properties of the Breakdown of Compressed Air in a Comparatively Uniform Field in the Presence of Localised Non-uniformities".

A.A. Vorob'yev et al. - "Pulse and Oscillographic Techniques for the Measurement of the Discharge Lags in Dielectrics" (see p 1257 of the journal).

A paper by B.N. Zolotykh dealt with the problem of the basic theory of the electric erosion (see p 1330 of the journal).

The fourth section was presided over by S.Yu. Luk'yanov and was concerned with the non-stationary and low-frequency discharges. The following papers were read:

I.G. Nekrashevich and A.A. Labud - "The Nature of the Current Interruption During the Electric Explosion of a Metal Wire".

V.A. Simonov - "Propagation of Plasma From Local Pulse Sources".

Card 7/15

G.G. Timofeyev et al. - "Observation of an Electro-dynamically Compressed Arc By Means of an Electron-optical Converter".

M.S. Ioffe and Ye.Ye. Yushmanov - "Investigation of the Radial Electric Field in an Ion Magnetron".

V.A. Belyayev and M.K. Romanovskiy - "Experiments with an Electron Model of a System with Magnetic Samples".

A.M. Andrianov et al. "Distribution of Magnetic and Electric Fields in Powerful Pulse Discharges".

G.N. Harding (England) - "Spectroscopic Determination of the Plasma Temperature in the "Zeta" Equipment" (see p 1326 of the journal).

The paper by Harding aroused a lot of interest and Academician L.A. Artsimovich expressed the opinion that the electrons and ion temperatures in the "Zeta" should be of the same order; instead, according to Harding, the electron temperature is lower by an order than that of the ions.

Reports presented at the 5th Intl. Conference on Ionization Phenomena in Gases. Munich, 28 August - 1 September 1961.

a. G A Basilevskaya, A H Andrianov, V F Demichev and V I Vasilyev

"Investigation of a Pulse Discharge in a Hollow Cylindrical Gas Sheath"

b. B G Brezhnev Yu S Maksimov

"Energy Measurements of Fast Electrons Formed During a Powerful Pulse Discharge" Chamber

c. A B Berezin, A M Zaydel, and G M Malyshev

"On a Method of Spectroscopic Investigation of the Hydrogen Discharge Chamber Walls Interactions"

d. V F Kitayeva N N Sobolev

"On the Hydrogen Lines Broadening Under the Carbon Arc and Detonation Wave Conditions"

e. S G Alikhanov R A Demirkhanov, A V Komin, G G Podlesnyy, G L Khorasanov

" An Investigation of Plasma Diffusion in the Magnetic Field"

f. V S Komelkov, Yu V Skvortsov V N Tereshchenko S S Tserevitinov

"Dynamical Current Cord"

g. N N Sobolev

"A Spectroscopically Studied State of Gases Following the Detonation Wave"

h. B N Ilin, Ye S Solovyev N V Fedorenko

"Molecular Hydrogen Ionization by Gas Hydrogen Atoms"

i. I P Flaks, G N Ogurtsov

"Ionization of Gases Induced by Multi-charged Ions"

j. P M Morozov, L N Pilyugov

"The Source for Molecular Hydrogen Ions Formation at the Ogra Device"

k. A L Beshatchenko V V Kuznetsov N P Malakhov N N Semashko

"Injection of an Ionic Beam into the Ogra Magnetic Trap"

l. V Ye Yurasova

"On Directed Emission of Particles from a Copper Single Crystal Sputtered by Bombardment with Ions"

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ANDRIANOV, A.M.; NAZARENKO, V.A.

Ionization constants of tripyrocatechol-germanic and tripyrogallol-germanic acids. Zhur. neorg. khim. 8 no.10:2276-2280 O '63.
(MIRA 16:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
(Germanic acid) (Complex compounds) (Ionization)

ANDRIANOV, A.M.; NAZARENKO, V.A.

Instability constants of tripyrocatechol-germanic and tripyrogallol-germanic compounds. Zhur. neorg. khim. 8 no.10: 2281-2284 O '63. (MIRA 16:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
(Germanium compounds) (Pyrocatechol) (Pyrogallol)

NAZARENKO, V.A.; ANDRIANOV, A.M.

Determination of germanium as a complex pyrocatechol germanate.
Zav.lab. 29 no.7:795-797 '63. (MIRA 16:8)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
(Germanium--Analysis) (Pyrocatechol)

NAZARENKO, V.A.; ANDRIANOV, A.M.

Alkalimetric determination of germanium as tridiphenylgermanic acids. Ukr. khim. zhur. 30 no.6:620-624 '64. (MIRA 18:5)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, laboratorii v Odesse.

L 01454-66 EWT(m)/EWP(j)/T/EWP(t)/ETI(b) IJP(c) JD/RM

ACCESSION NR: AP5021781 UR/0074/65/034/008/1313/1331
546.286

AUTHOR: Nazarenko, V. A.; Andrianov, A. M.

TITLE: Complex compounds of germanium and its state in solutions

SOURCE: Uspekhi khimii, v. 34, no. 8, 1965, 1313-1331

TOPIC TAGS: germanium, germanium compound, germanium organic compound

ABSTRACT: The present status of the chemistry of complex germanium compounds is reviewed, and the state of germanium in solution, which is closely related to complex forming, is also discussed. The review deals with the following subjects: (1) state of germanium in aqueous solutions; (2) state of germanium in inorganic acid solutions; (3) germanium heteropoly acids; (4) addition products of germanium tetrahalides; (5) complex compounds of germanium with polyhydric alcohols; (6) complex compounds of germanium with carboxylic acids; (7) complex compounds of germanium with diphenols; (8) complex compounds of germanium with hydroxycarboxylic acids, including (A) compounds already containing an ortho or perihydroxycarboxyl group and (B) compounds of *o*-diphenol structure capable of tautomeric conversion into

Card 1/2

L 01453-66

ACCESSION NR: AP5021781

o-hydroxyquinones; (9) nitrogen- and sulfur-containing germanium complexes; (10) complex-forming germanium ions.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR, Laboratorii v Odesse (Institute of General and Inorganic Chemistry, AN UkrSSR, Odessa Laboratories)

SUBMITTED: 00 ENCL: 00 SUB CODE: GC

NO REF SOV.: 085 OTHER: 174

Card 2/2

ANDRIANOV, A.N.

Generalization of M. Eichler's theorem in the theory of quaternary quadratic forms. Dokl. AN SSSR 141 no.1:9-12 N '61. (MIRA 14:11)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. Predstavleno akademikom I.M. Vinogradovym.

(Forms, Quadratic)

ANDRIANOV, A.N.

Analytic arithmetic of quadratic forms with an odd number of variables in connection with the theory of modular forms. Dokl. AN SSSR 145 no.2:241-244 Jl '62. (MIRA 15:7)

1. Leningradskoye otdeleniye Matematicheskogo instituta imeni V.A.Steklova AN SSSR. Predstavleno akademikom I.M.Vinogradovym.
(Forms (Mathematics))

ANDRIANOV, A.N.; FOMENKO, O.M.

Fourier coefficients of parabolic forms. Dokl. AN SSSR 158 no.2:255-257 S '64. (MIRA 17:10)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. Predstavleno akademikom I.M.Vinogradovym.

ANDRIANOV, A.N.

Representation of numbers by certain quadratic forms in connection with the theory of elliptic curves. Izv. AN SSSR. Ser.mat. 29 no.1:227-238 '65. (MIRA 18:4)

ANDRIANOV, A.N.; FOMENKO, O.M.

Mean squares by progressions of the Fourier coefficients of parabolic forms. Trudy Mat. inst. 80:5-15 '65.

(MIRA 18:7)

ANDRIANOV, A.N.

Representations of a modular group on spaces of parabolic form. Dokl. AN SSSR 165 no.4:735-737 D '65.

(MIRA 18:12)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A.Steklova AN SSSR. Submitted April 15, 1965.

AUTHOR: Norkin, N.N., Candidate of Technical Sciences; Kolin, V., Candidate of Chemical Sciences; Spetstsi, G.D.; Andrianov, A.P., Chashchin, I.P.; Bogma, A.S.

3-58-4-32/34

TITLE: Bibliography (Bibliografiya) A Guide for Practical Exercises (Rukovodstvo k prakticheskim zanyatiyam)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, # 4, pp 9192 (USSR)

ABSTRACT: This is a review of a book (published by Goskhimizdat,1957) "Guide for Practical Exercises in the Laboratory of Processes Apparatuses of Chemical Technology", which was compiled by P.G. Romankov, L.P. Dmitriyenko, B.N. Lepilin, A.A. Noskov, I.Ye. Ovechkin, N.V. Ozerova, I.S. Pavlushenko, N.B. Rashkovskaya, V.N. Sokolov, N.I. Taganov and P.Ya. Yablonskiy, workers of the Chair of Processes and Apparatuses of Chemical Technology, Leningradskiy tekhnologicheskiy institut imeni Lensoveta (Leningrad Technological Institute imeni Lensovet)

ASSOCIATION: Tomskiy politekhnicheskiy institut imeni S.M. Kirova (Tomsk Polytechnic Institute imeni S.M. Kirov)

AVAILABLE: Library of Congress

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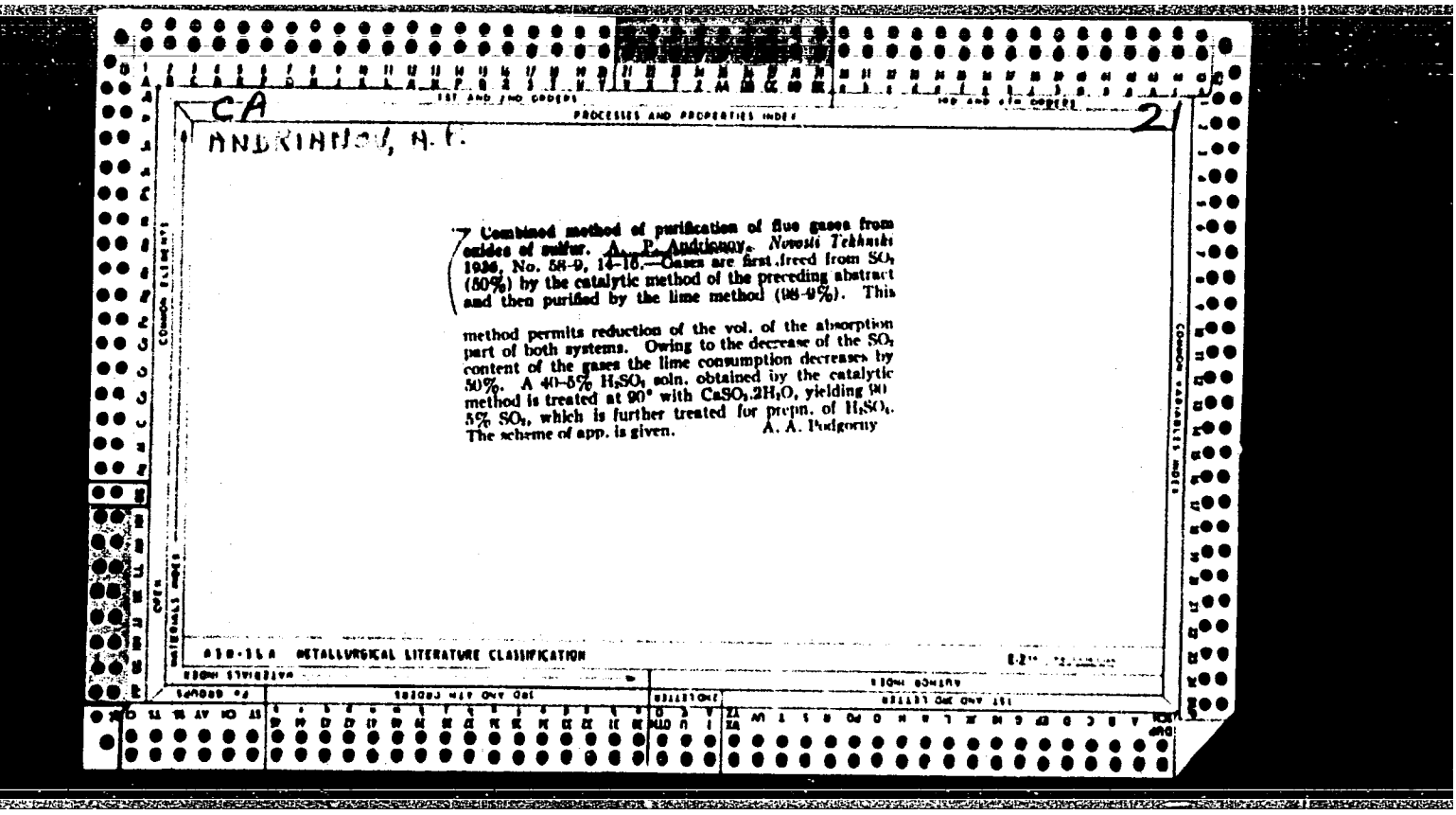


CA

ANDRIANOV, A. P.

PROCESSES AND PROPERTIES INDEX

21

7 Combined method of purification of flue gases from oxides of sulfur. A. P. Andrianov. *Novosti Tekhniki* 1936, No. 58-9, 14-16.—Gases are first freed from SO_2 (50%) by the catalytic method of the preceding abstract and then purified by the lime method (98-9%). This method permits reduction of the vol. of the absorption part of both systems. Owing to the decrease of the SO_2 content of the gases the lime consumption decreases by 50%. A 40-5% H_2SO_4 soln. obtained by the catalytic method is treated at 90° with $CaSO_3.2H_2O$, yielding 90 5% SO_2, which is further treated for prepn. of H_2SO_4. The scheme of app. is given. A. A. Fedgorny

A10-15A METALLURGICAL LITERATURE CLASSIFICATION

ANDRIANOV, A.P.

Problem of the purification of smoke gases of sulfurdioxide. (In: Russia (1923- U.S.S.R.) Vsesoyuznaya gosudarstvennaya sanitarnaya inspektsiya. Ochistka promyshlennykh vybrosov v atmosferu. 1953. p.70-90) (MLRA 7:1)

1. Proyektnaya kontora tresta "Gazoochistka" Ministerstva khimicheskoy promyshlennosti.

(Air--Purification)

KOVACHEVICH, P.M., prof.; FEDOROV, N.A., kand.tekhn.nauk; ANDRIANOV, A.P., inzh.; BOBER, Ye.A., inzh.; GORBACHEV, D.T.; DENISOV, V.V.; KONONCHUK, G.I., brigadir

Work practices of the brigade of G.I.Kononchuk at "Berezovskaia-1" Mine in the Kuznetsk Basin. Ugol' 38 no.3:2-6 Mr '63. (MIRA 18:3)

1. Kemerovskiy gornyy institut (for Kovachevich, Fedorov, Andrianov, Bober). 2. Glavnyy inzh. tresta Kemerovougol' (for Gorbachev). 3. Glavnyy inzh. shakhty "Berezovskaya-1" tresta Kemerovougol' (for Denisov). 4. Shakhta "Berezovskaya-1" tresta Kemerovougol' (for Kononchuk).

USSR/Chemistry - Sulfur dioxide; Air purification FD-960

Card 1/1 Pub. 50 - 3/19

Authors : Andrianov, A. P., Chertkov, B. A.

Title : The ammonia circulation method of capturing sulfur dioxide from smoke gases

Periodical : Khim. prom., No 7, 394-401 (10-17), Oct-Nov 1954

Abstract : Describe in detail continuous absorption of sulfur dioxide from smoke gases by means of an ammonium sulfite solution on the basis of procedures developed by NIIOGAS and Giprogazoochistka and tried out on a plant-experimental scale at a thermal-electric power plant. In the procedure described, 100% pure sulfur dioxide is recovered by heating the resulting ammonium bisulphite solution. The ammonium sulfite is recirculated. Four references, all USSR, all since 1940. Two tables, 3 graphs.

Institution : NIIOGAZ [Scientific Research Institute of Gas Purification] and Giprogazoochistka [State Planning Institute for Gas Purification].

AFONIN, Petr Tikhonovich; ANDRIANOV, Aleksandr Pavlovich; NIKITIN, L.I., redaktor; GORYUNOVA, L.K., redaktor izdatel'stva; KARASIK, N.P., tekhnicheskiy redaktor

[Repair of narrow-gage locomotives in the Suslonger lumber industry] Remont uzkokoleinykh parovozov v Suslongerskom lespromkhoze. Moskva, Gos.selbumizdat, 1957. 50 p. (MLRA 10:9)
(Locomotives--Maintenance and repair)

ANDRIANOV, A.P.

Possibility of using glued shield coverings. Izv.TPI 93:3-7 '58. (MIRA 13:5)
(Coal mines and mining--Equipment and supplies)

ANDRIANOV, A.P., inzh.

Classification of closed parts of folds in steeply-pitching seams. Izv.vys.ucheb.zav.; gor.zhur. no.5:14-17 '59.
(MIRA 13:5)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni S.M.Kirova. Rekomendovana kafedroy plastovykh mestorozhdeniy.
(Folds (Geology))

PROSKURIN, V.V., dotsent; KUZNETSOV, L.A., inzh.; ANDRIANOV, A.P., inzh.; GUSEV, I.P., inzh.

Industrial testing of shield ceilings made of logs. Izv.vys. ucheb.zav.; gor.zhur. no.6:3-8 '59. (MIRA 13:4)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni S.M.Kirova. Rekomendovana kafedroy razrabotki plastovykh mestorozhdeniy.
(Mine timbering)

ANDRIANOV, A.P., inzh.

Problem of determining the extent of the mining areas in the wings of the closure section of folds. Izv. vys. ucheb. zav.; gor. zhur. no.9:3-8 '59. (MIRA 14:6)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni S.M. Kirova. Rekomendovana kafedroy razrabotki plastovykh mestorozhdeniy.
(Coal mines and mining—Fires and fire prevention)
(Folds (Geology))

ANDRIANOV, A.P., starshiy prepodavatel'; GUSEV, I.P., dotsent; KUZNETSOV, L.A., starshiy prepodavatel'; PROSKURIN, V.V., dotsent; FEDOROV, N.A., starshiy prepodavatel'

Clay breakthroughs in mining. Izv.vys.ucheb.zav.; gor.zhur. no.3:15-18 '61. (MIRA 15:4)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskiy institut imeni S.M.Kirova; rekomendovana kafedroy razrabotki plastovykh mestorozhdeniy Tomskogo politekhnicheskogo instituta. (Prokop'yevsk region--Coal mines and mining) (Clay)

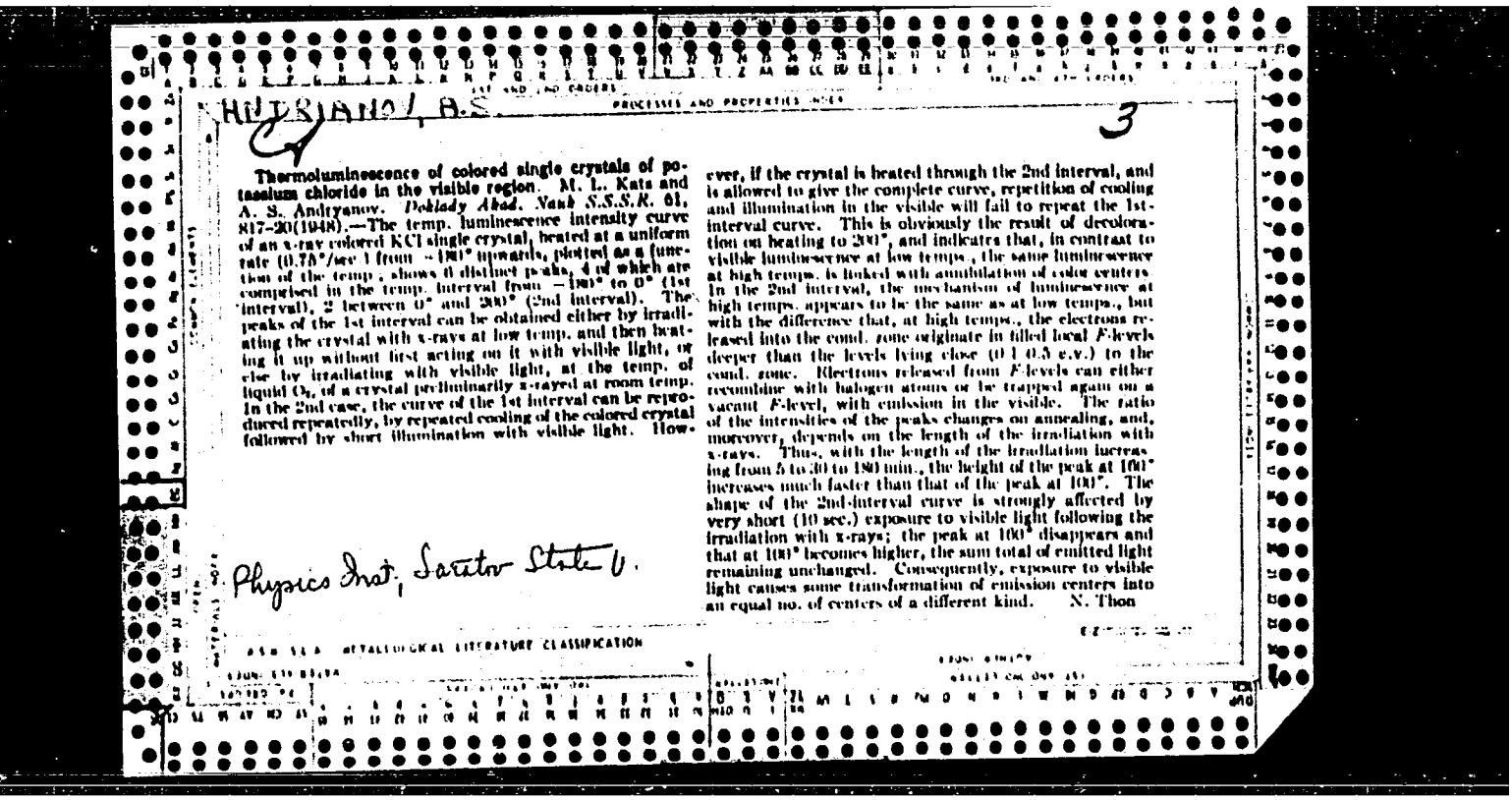
ANDRIANOV, A.P.; ZAYTSEV, M.M.; IDEL'CHIK, I.Ye.; POPOV, D.D.[deceased]; TEVEROVSKIY, Ye.N.; UZHOV, V.N.; CHUMAK, L.I.; SHAKHOV, G.F.; SHIROKOV, F.A.; TOMCHINA, Ye.I., red.; ZAZUL'SKAYA, V.F., tekhn. red.

[Battery cyclones; instructions for designing, assembling, and operating] Batareinye tsiklony; rukovodiashchie ukazaniia po proektirovaniiu, montazhu i ekspluatatsii. 2. izd. Moskva, Gos. nauchno-tekhn.izd-vo khim. lit-ry, 1959. 103 p. (MIRA 15:1)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po khimii. (Separators (Machines))

TEVEROVSKIY, Ye.N.; ANDRIANOV, A.P.; MAKAROV, A.I.; AL'PEROVICH, M.A.

"Aerodynamic of industrial apparatus." by I.E. Idel'chik. Reviewed by Teverovskiy, Ye.N., Andrianov, A.P., Makarov, A.I., Al'perovich, M.A. Khim. prom. 41 no.3:241 Mr '65. (MIRA 18:7)



HUTRIANO I, B.S.

3

Thermoluminescence of colored single crystals of potassium chloride in the visible region. M. L. Kats and A. S. Andryanov. *Doklady Akad. Nauk S.S.S.R.* 61, 817–20(1948).—The temp. luminescence intensity curve of an x-ray colored KCl single crystal, heated at a uniform rate (0.75°/sec.) from −181° upwards, plotted as a function of the temp., shows 6 distinct peaks, 4 of which are comprised in the temp. interval from −181° to 0° (1st interval), 2 between 0° and 280° (2nd interval). The peaks of the 1st interval can be obtained either by irradiating the crystal with x-rays at low temp. and then heating it up without first acting on it with visible light, or else by irradiating with visible light, at the temp. of liquid O_2, of a crystal preliminarily x-rayed at room temp. In the 2nd case, the curve of the 1st interval can be reproduced repeatedly, by repeated cooling of the colored crystal followed by short illumination with visible light. However, if the crystal is heated through the 2nd interval, and is allowed to give the complete curve, repetition of cooling and illumination in the visible will fail to repeat the 1st-interval curve. This is obviously the result of decoloration on heating to 280°, and indicates that, in contrast to visible luminescence at low temps., the same luminescence at high temps. is linked with annihilation of color centers. In the 2nd interval, the mechanism of luminescence at high temps. appears to be the same as at low temps., but with the difference that, at high temps., the electrons released into the cond. zone originate in filled local *F*-levels deeper than the levels lying close (0.1–0.3 e.v.) to the cond. zone. Electrons released from *F*-levels can either recombine with halogen atoms or be trapped again on a vacant *F*-level, with emission in the visible. The ratio of the intensities of the peaks changes on annealing, and, moreover, depends on the length of the irradiation with x-rays. Thus, with the length of the irradiation increasing from 5 to 30 to 180 min., the height of the peak at 100° increases much faster than that of the peak at 100°. The shape of the 2nd-interval curve is strongly affected by very short (10 sec.) exposure to visible light following the irradiation with x-rays; the peak at 100° disappears and that at 100° becomes higher, the sum total of emitted light remaining unchanged. Consequently, exposure to visible light causes some transformation of emission centers into an equal no. of centers of a different kind. N. Thon

Physics Inst., Saratov State U.

METALLURGICAL LITERATURE CLASSIFICATION

ANDRIANOV, A. S.

Aug 48

USSR/Physics
Spectra - Intensity
Crystal

"Thermoluminescence of Colored Multicrystalline KCl in the Visible Part of a Spectrum," M. L. Kats, A. S. Andrianov, Phys Inst, Saratov State U, 4 pp

"Dok Ak Nauk SSSR" Vol LXI, No 5

Investigates intensity of temperature luminescence in a colored KCl crystal as a function of temperature (in the range -180 to 200° C). Graph of this dependence shows six distinct peaks.

24/49T115

ANDRIANOV, A.S.

7

3 : M.A. YOUTZ
Scopics

2059. **Quantitative determination of sulphur and silicon by means of a steeloscope.** A. S. Andrianov, V. N. Razvodovskaya and P. M. Sinyakova. *Uch. Zap. Saratov. Univ.*, 1954, 40, 107–114; *Ref. Zhur., Khim.*, 1955, Abstr. No. 23,980.—Conditions for determining S (0·04 to 1 per cent.) in solutions, and Si (1·5 to 9·5 per cent.) in aluminium alloys by means of a Sventitskii activated a.c. arc and a steeloscope are described.
G. S. Smith

ANDRIANOV, A. S.

2 / 1

Effect of excitation conditions on luminescent tempera[illegible] [illegible] [illegible]able part of the [illegible] of x-rayed KCl monoc[illegible] spectrum. A. S. Andr[illegible] [illegible] [illegible]

[illegible] 1055. No. 20307 [illegible] the role of color spectrum of local levels [illegible] centers in the mechanism [illegible] temp. of x-rayed KCl [illegible] to +200° was investig[illegible] temp. of crystals, x-rayi[illegible] [illegible] 80 and 160°, x-raying at te[illegible] comparison of [illegible] appearance of a [illegible] curves of thermal [illegible] crystals allow [illegible] spectrums, locat[illegible] crysta[illegible] illuminati[illegible] distributed [illegible] which is strong [illegible] [illegible] enters into othe[illegible] [illegible] localized in them. [illegible] thermal lumin[illegible] max. of the curve of thermal [illegible] are attributed to the specific intervals of −180 to +20° are attributed to the specific groups of the vacancy, more complex than M and R centers or twice-measured F centers. [illegible] Rovtar Leach.

ANDRIANOV, A. S.

USSR/Physics

Card 1/1

Authors : Andrianov, A. S., and Kats, M. L.

Title : Change of absorption spectra of tin activated alkali-halide phosphori under the effect of x-rays

Periodical : Dokl. AN SSSR, 96, Ed. 2., 253 - 256, May 1954

Abstract : A study of the changes of absorption spectra of tin activated alkali-halide phosphori brought out the following facts: 1) an increase in continuation of x-raying reduces the absorption in the short wave group of maxima; 2) in the spectral zone, in which the long wave group of maxima is situated, the absorption increases with the increase in continuation of x-raying; 3) in intensively x-rayed crystals, the short wave group transforms into one band with a maximum at 228 mμ. The two adjacent maxima appearing at 224 and 240 mμ disappear in this case. Analogous effects are also caused in other tin activated alkali-halide phosphori. Six references; 4 USSR since 1948. Graphs.

Institution : The N. G. Chernyshevskiy State University, Saratov.

Presented by : Academician G. S. Landsberg, February 27, 1954.

ANDRIANOV, A. S.

ANDRIANOV, A. S. : "Investigation of the absorption and radiation spectra of alkali-halide phosphors activated by tin." Min Higher Education USSR. Saratov State U Imeni N. G. Chernyshevskiy. Saratov, 1956 (Dissertations for the Degree of Candidate in Physicomathematical Science)

Source: Knizhnaya letopis' No. 28 1956 Moscow

Andrianov, A. S.

48-4-31/48

SUBJECT: USSR/Luminescence

AUTHORS: Andrianov A.S. and Kats M.L.

TITLE: X-Ray Action on Absorption and Luminescence of Alkali-Haloid Phosphors Activated by Tin (Deystviye rentgenovykh luchey na pogloshcheniye i svecheniye shchelochno-galoidnykh fosforov, aktivirovannykh olovom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #4, p 552 (USSR)

ABSTRACT: Alkali-haloid phosphors activated with tin have 6 spectral bands. In the case of KCl-Sn these bands have maxima at 224, 232, 240 252, 276, and 296 mμ.

After irradiating this phosphor by X-rays, the absorption sharply decreases in 224, 232 and 246 mμ maxima and increases in the region with the long wavelength maxima. In phosphors subjected to a strong action of X-rays, the group of short wavelength bands transforms into one band having one diffused maximum. These changes are reversible; after heating the absorption intensity in the region of short wavelength bands increases and the former shape of absorption curve is restored.

Card 1/2

S/058/62/000/008/038/134
A061/A101

24,3500,

AUTHOR: Andrianov, A. S.

TITLE: Absorption spectra of tin-activated alkali halide phosphors

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 29, abstract 8V201 ("Nauchn. yezhegodnik. Saratovsk. un-t. Fiz. fak. i N.-i. in-t mekhan. i fiz.", 1955, Saratov, 1960, 82 - 86)

TEXT: Absorption spectra of KCl-Sn and KBr-Sn phosphors in the 220 - 320 mμ range, as well as of the mixed phosphor (KCl-KBr)-Sn have been investigated. It has been established that the X-ray-induced change in the absorption spectrum of KCl-Sn and KBr-Sn crystals is associated not with the ionization of activator centers but with the trapping of free electrons by the latter. It has been found that the bromine ions influence the absorption spectrum more actively than the chlorine ions. The structure of the absorption spectrum has been found to smooth out in the case of mixed phosphors. This appears to be due to the imposition of a forbiddance of electron transitions between the corresponding levels of the absorption center, or to degeneracy of the levels. A correspondence has been estab-

Card 1/2

ANDRIANOV, A.S.; KATS, M.L.

X-ray electroluminescence in potassium bromide crystals.
Opt. i spektr. 11 no.3 422-423 S '61. (MIRA 14:9)
(Luminescence) (Potassium bromide crystals)

S/048/61/025/003/033/047
B104/B202

9.4160 (also 1137, 1395)

AUTHORS: Andrianov, A. S. and Kats, M. L.

TITLE: Luminescence of alkali halide phosphors which had been activated by means of antimony trichloride

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 3, 1961, 390-392

TEXT: This paper was presented at the 9th conference on luminescence (crystal phosphors) Kiyev, June 20 to 25, 1960. The authors studied alkali halide phosphors activated with ions having the same outer electron shells (In^+, Sn^{2+}, Sb^{3+}). They investigated the optical properties of surface-activated single crystal phosphors; Fig. 1 shows the absorption curves of KCl-$SbCl_3$ (Curve 1) KBr-$SbCl_3$ (Curve 2) phosphors and of an $SbCl_3$ layer which had been applied to a quartz base (Curve 3). Furthermore, curves 3 and 4 of this figure show the excitation spectrum and the fluorescence spectrum of KCl-$SbCl_3$ phosphor. A comparison of curve 1 and

Card 1/3

2 of this figure with the representations of the absorption spectra of alkali halide phosphors which had been activated with tin and indium indicates that the absorption spectra of these phosphors are caused by equal electron transitions. However, considerable differences are observed in the optical properties. While the activator absorption spectra of the phosphors activated with indium and tin are in full agreement with the fluorescence spectra, this agreement is not found in phosphors activated with antimony (Curves 1 and 4). This indicates that absorption and fluorescence take place in different centers. The formation of fluorescence centers due to the interaction between $SbCl_3$ molecule and the fundamental substance is inferred from the fact that fluorescence of $SbCl_3$ phosphor cannot be excited by ultraviolet light. In the following discussion N. Ye. Lushchik describes his experiments with KCl-Sb single crystals which, in principle, are in agreement with the results obtained here. There are 1 figure and 8 references: 6 Soviet-bloc.

ASSOCIATION: Saratovskiy gos. universitet im. N. G. Chernyshevskogo
(Saratov State University imeni N. G. Chernyshevskiy)

Luminescence of alkali halide...

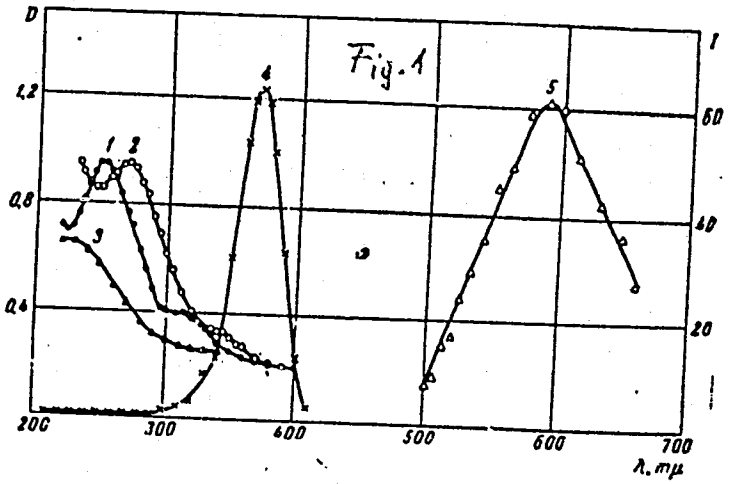


Fig. 1

Card 3/3

ACCESSION NR: AT4016325 S/0000/62/000/000/0416/0420

AUTHOR: Andrianov, A. S. ; Kats, M. L.

TITLE: Electro- and x-ray-induced luminescence in KBr crystals

SOURCE: Vses. soveshch. po fiz. shchelochnogaloidn. kristallov. 2d, Riga, 1961. Trudy*. Fiz. shchelochnogaloidn. kristallov (Physics of alkali halide crystals). Riga, 1962, 416-420

TOPIC TAGS: luminescence, phosphor, alkali halide, alkali halide crystal, potassium bromide, electroluminescence, radioluminescence

ABSTRACT: Pure powdered KBr, mixed with a resin dielectric, was spread on a glass plate and, upon drying and polymerizing, coated with aluminum spray which served as one electrode, while a transparent SnO_2 coating on the reverse side of the plate served as the other. The capacitor thus created was placed in the path of an x-ray beam, with the aluminum coating facing the beam. The luminescence could be observed through the transparent SnO_2 layer and was found to occur under the influence of either an electric field or x-ray, with the combined action of both increasing its brightness. The nature of the intensifying action of an electric field on the x-ray-induced luminescence of KBr

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ACCESSION NR: AT4016325

was examined by adding $SnBr_2$ and AgBr activators. These activators produced no stimulating effect, suggesting that the increased brightness does not originate from activating admixtures present in the lattice but is linked with the excitation of the crystal base properties. Orig. art. has: 3 figures.

ASSOCIATION: Saratovskiy gosudarstvenny*y universitet im. N. G. Cherny'shevskogo (Saratov State University)

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Card 1/ 2/2

L 17088-65 EWA(k)/EWT(l)/EWT(m)/EEC(t)/EWP(t)/EWP(b) IJP(c)/APMDC/AFWL/
AS(mp)-2/ASD(a)-5/SSD/ASD(m)-3/RAEM(a)/ESD(gs)/ESD(t) JD
ACCESSION NR: AP4048747 S/0051/64/017/005/0739/0744

AUTHOR: Andrianov, A. S.; Kats, M. L.; Kirillov, L. A.; Fomichev, V. V.

TITLE: Combined electric and x-ray luminescence of alkali halide compounds

SOURCE: Optika i spektroskopiya, v. 17, no. 5, 1964, 739-744

TOPIC TAGS: electroluminescence, x ray luminescence, alkali halide, luminescence brightness, luminescence quenching

ABSTRACT: Continuing their earlier investigations of luminescence produced by simultaneous applications of x-rays and an electric field (Opt. i spektr. v. 11, 422, 1961), the authors studied solid capacitors (0.1—0.2 mm thick) with NaCl, KCl, KBr, KI, CsCl, CsBr, and CsI powders used as a dielectric. When an electric field is applied to such capacitors, no luminescence is observed even at breakdown fields.

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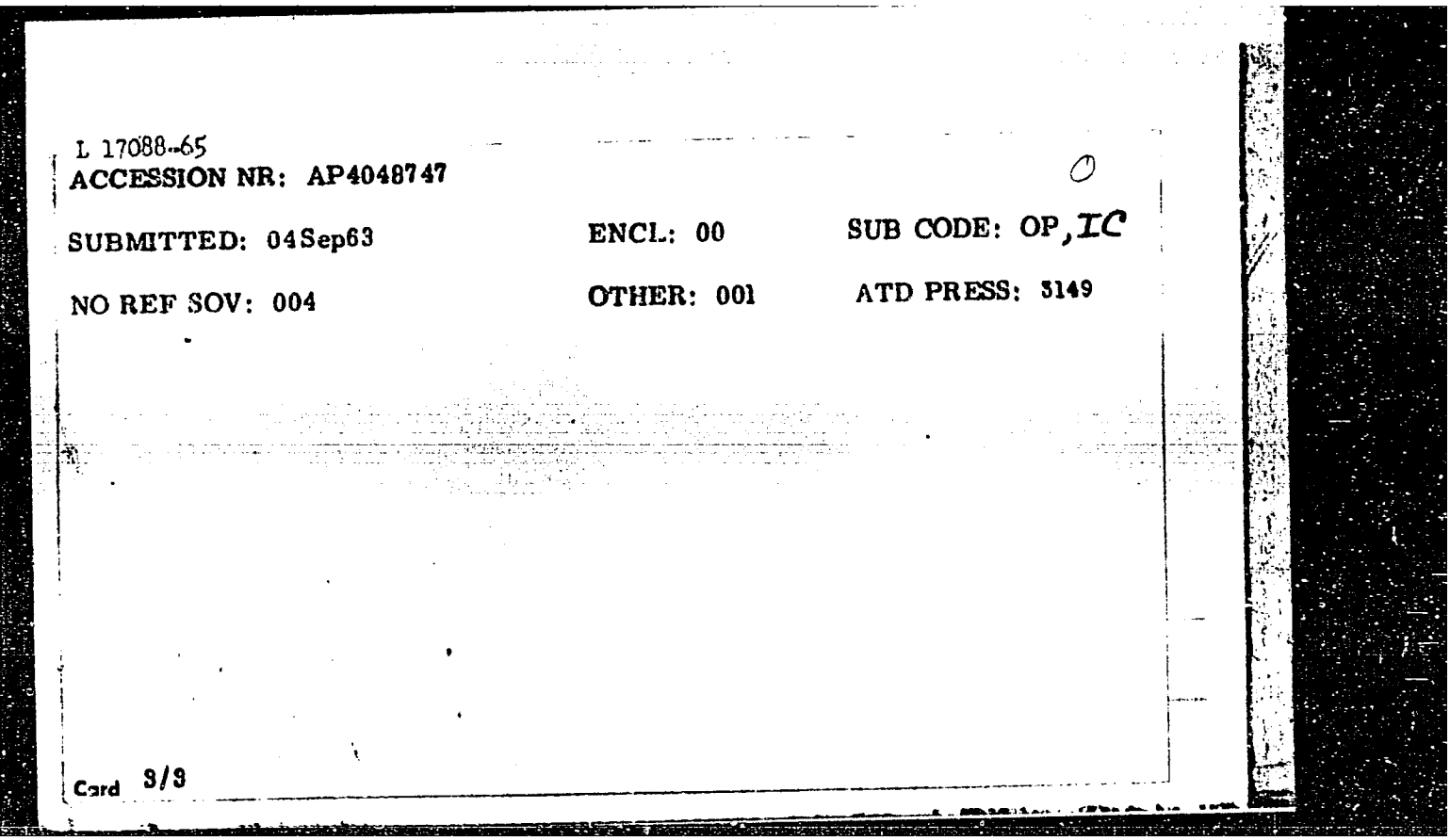
ACCESSION NR: AP4048747

X-irradiation in the absence of an electric field produces luminescence whose intensity changes when a field is applied. The x-rays were applied to the capacitor through its aluminum electrode, and the visible light was recorded through its transparent electrode with the aid of an FEU-12B photomultiplier and an oscilloscope or microammeter. The ratio of the intensity with and without electric field ranged from 0.92 to 1.5. It is shown that the application of the field gives rise to two opposing effects, an increase in the recombination rate, and acceleration of the carriers (the latter reduces the recombination rate). In CsI the latter effect predominates, and the intensity is decreased by the field. In all other substances, the former effect predominates. The delay in the change of intensity relative to the application of the field is also explained. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: none

Card 2/3



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ACCESSION NR: AP4048747

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Card 3/3

L 49272-65 EWT(1)/EWT(m)/EWP(t)/EWP(b) Pi-4 IJP(c) JD/JG

ACCESSION NR: AP5009530 S/0048/65/029/003/0493/0496

AUTHOR: Andrianov,A.S.; Kats,M.L.; Kirillov, L.A.; Pomichev, V.V. 33 B

TITLE: Influence of an electric field on the luminescence of alkali halide compounds [Report, 12th Conference on Luminescence held in L'vov 30 Jan-5 Feb 1964]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 3, 1965, 493-496

TOPIC TAGS: luminescence, alkali halide, x ray, electric field

ABSTRACT: The authors have investigated the electroroentgenoluminescence of NaCl, KCl, KBr, KI, CsCl, CsBr, and CsI. A powder of the salt under investigation was incorporated into the dielectric of a capacitor and was excited to fluorescence by x-rays. The x-ray tube was powered by a half-wave rectifier from the 50 cps mains, and a 10^5 V/cm alternating electric field of the same frequency was applied to the capacitor. The ratio, r, of the luminescence intensity with the field applied to the intensity without the field ranged from 0.92 for CsI (the only material studied for which r was less than unity) to 1.5 for KBr. Further experiments were performed with KCl. The material was irradiated with continuous x-rays and a 1 millisec square pulse was applied to the capacitor. An oscillogram of the resulting fluor-

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L 49272-65

ACCESSION NR: AP5009530

escence suggests a time constant for the build-up and decay of the order of a millisecond. The ratio r was found to decrease when the material was either heated or cooled from room temperature, and thermal hysteresis was observed. At about -100C, r was unity. The thermostimulated phosphorescence light sum was the same whether the preliminary activation by x-rays was performed in the presence or the absence of the electric field, but the presence of the field during the thermostimulation itself increased the light sum. The interpretation of the results is discussed briefly; it is concluded that release of trapped electrons is not involved, but that both electron and hole processes participate in the electroroentgenoluminescence. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: OP, SS

NR REF SOV: 004 OTHER: 003

Card 2/2

ANDRIANOV, A.S.

Problems of the granular composition of molding sands. Izv.vys.ucheb. zav.; chern.met. 8 no.8:130-135 '65.

1. Odesskiy politekhnicheskiy institut. (MIRA 18:8)

ACC NR: AP7004723 SOURCE CODE: UR/0413/67/000/001/0008/0008

INVENTOR: Kokorev, B.I.; Andrianov, A.V.

ORG: none

TITLE: Machine for winding wire spirals on tubes. Class 7, No. 189796

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1967, 8

TOPIC TAGS: metal tube, ~~[illegible]~~, wire, ~~spiral~~ METALWORKING MACHINERY ~~[illegible]~~

ABSTRACT: This Author Certificate introduces a machine for winding wire spirals on tubes. It contains a disk-shaped winding head which rotates around a stationary mandrel in a frame mounted on a base (see Fig. 1). For unrolling wire from a stationary coil, the machine is equipped with an electromagnet mounted on the winding head which forms an annular gap between the electromagnet and the mandrel, allowing the wire to pass through and creating a magnetic field which holds the mandrel in a stationary position. Orig. art. has: 1 figure. [TD]

UDC: 621.778.27.06

Card 1/2

ANDRIANOV, B.D., inzhener.

Placing bridge spans with a cantilever crane using new methods of wire rope transportation. Transp. stroi. 7 no.1:29-30 Ja '57. (MLRA 10:3)

(Bridge construction)

ANDRIANOV, B.D., inzh.

Building a bridge over the Ural River. Transp.stroi. 9 no.7:15-16 Jl '59. (MIRA 12:12)
(Ural River--Bridges, Concrete)

ANDRIANOV, B.D., inzh.

Assembling precast arches of the bridge over the Klyaz'ma River. Transp.stroi. 10 no.5 14-17 My '60. (MIRA 13:7)
(Klyaz'ma River--Bridges, Arched)

ANDRIANOV, B.D., inzh.

Achievements of the efficiency promoters of the All-Union Trust for Bridge Construction. Transp.stroi. 10 no.8: 9-12 Ag '60. (MIRA 13:8)
(Bridge construction)

ANDRIANOV, B.D., inzh.; KRESTNIKOV, I.L., inzh.; MIKHIN, N.I., inzh.; KHAREBAVA, B.A., inzh.

Constructing pile foundations using 0.6m precast reinforced concrete shells. Transp. stroi. 11 no.1:11-13 Ja '61. (MIRA 14:1)

(Ural River—Bridges—Foundations and piers)

LEN', M.I.; ANDRIANOV, B.K.

Improving the quality of nonwoven semi-woolen fabrics. Tekst. prom. 24 no.8:56-57 Ag '64. (MIRA 17:10)

1. Pomoshchniki mastera uchastka netkanykh materialov Vitebskoy vatno-vatinnoy fabriki.

ANDRIANOV, B.P.

Metalwork and the assembly of hull and superstructure block sections in the building of the icebreaker "Lenin." Sudostroenie 27 no.8: 46-48 Ag '61. (MIRA 14:9)
(Lenin (Atomic ship)) (Shipfitting)

ANDRIANOV, B.V.

Causes of the barenness of lands of ancient irrigation along the Kun'ya-Dar'ya and the Zhany-Dar'ya. Izv.Vses.geog.ob-va 86 no.5: 442-447 S-O '54. (MLRA 7:10)
(Kun'ya-Dar'ya Valley--Irrigation) (Zhany-Dar'ya Valley--Irrigation)

ANDRIANOV, B.V.

ANDRIANOV, B.V.; BAZILEVICH, N.I.; RODIN, L.Ye.

Historical note on the ancient irrigation of Khorezm. Izv. Vses. geog. ob-va 89 no.6:516-535 N-D '57. (MIRA 10:12)
(Uzbekistan--Irrigation)

TOLSTOV, S.P.; KES', A.S., kand.geograf.nauk; ITINA, M.A., kand.istor. nauk; ANDRIANOV, B.V., kand.istor.nauk; ZHDANKO, T.A., kand. istor.nauk; VISHNEVSKAYA, O.A., nauchnyy sotrudnik; VAKTURSKAYA, N.N., kand.istor.nauk. Prinimali uchastiye LEVINA, L.M., aspirantka; TRUDNOVSKAYA, S.A.; DAVIDOVICH, Ye.A., kand.istor. nauk; ANDRIANOV, B.V., red.izd-va; LEBEDEVA, L.A., tekhn.red.

[The lower reaches of the Amu Darya, the Sarykamysh and the Uzboy; history of their formation and settlement] Nizov'ia Amu-Dar'i, Sarykamysh, Uzboi; istoriia formirovaniia i zaseleniia. Pod obshchei red. S.P.Tolstova. Moskva, 1960. 346 p. (Materialy Khorezmskoi ekspeditsii, no.3). (MIRA 14:2)

1. Akademiya nauk SSSR. Institut etnografii. 2. Chlen-korrespondent AN SSSR (for Tolstov). 3. Institut etnografii AN SSSR (for Levina). 4. Akademiya nauk Tadzhikskoy SSR (for Davidovich).
(Amu Darya Valley)

85547

15.8106

S/081/60/000/020/010/014
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 20, p. 510, # 83017

AUTHORS: Petrov, G.S., Kamenskiy, I.V., Andrianov, B.V.

15

TITLE: On the Problem of Obtaining Thermoactive Phenol-Aldehyde Compounds Suitable for Pressure Casting

PERIODICAL: Tr. Mosk. khim.-tekhnol. in-ta im. D.I. Mendeleyeva, 1959, No. 29, pp. 34-49

TEXT: A method was developed of obtaining a new type of formaldehyde polymers (I) containing hexamethylene tetramine (II) or furfuramide and being complex compounds. According to this method the aqueous solution of I was concentrated in a vacuum to a 75 - 80% solution and subsequently, during mixing at 40 - 50°C, 5, 15, 25 and 40% II (GF polymer) or 40, 60% furfuramide (FF polymer) were added. The products formed were dried at 18 - 20°C, crushed and screened through a "No. 20" sieve. With an increasing amount of II the moisture content and loss of I decreased in the final product. Properties of GF and FF are noticeably different from the properties of mechanical mixtures of the same composition. GF and FF

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S/081/60/000/020/010/014
A006/A001

On the Problem of Obtaining Thermoactive Phenol-Aldehyde Compounds Suitable for Pressure Casting

are well soluble in water and alcohol. The authors describe properties of resins obtained on the phenol base and on the GF or FF base, at molecular ratios of 6:7 and 1:2. Curves of the hardening kinetics of the pressed compounds on the base of synthesized resins are given, indicating the possibility of reprocessing them by pressure casting. It is shown that synthesized resins liberate during hardening small quantities of volatiles. The authors present physico-mechanical and dielectrical indices of the pressed compounds and give data on the chemical stability of the resins obtained. It is noted that these resins are light- and heat-resistant.

Ye. Zambrovskaya

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

S/191/61/000/008/002/005
B110/B201

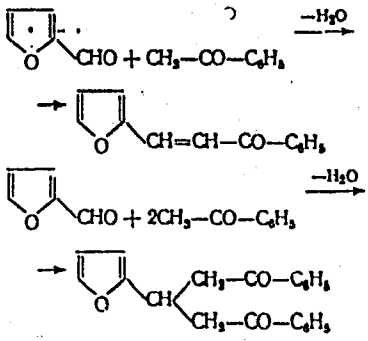
15.8130

AUTHORS: Kamenskiy, I. V., Itinskiy, V. I., Teplov, N. Ye. Andrianov, B. V.

TITLE: Synthesis and study of monomeric and polymeric reaction products of acetophenone with furfurole

PERIODICAL: Plasticheskiye massy, no. 8, 1961, 12 - 15

TEXT: Reaction products of acetophenone with furfurole are as follows:



(A)

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(II) is obtained with considerable excess of acetophenone only. (I) is prepared by condensation of equimolecular amounts of furfurole and acetophenone by means of sodium ethylate in alcohol in a yield of 60 - 80 %. In consideration of the fact that the production of resins by means of benzene sulfonic acid catalysts and resulting resin products had been hitherto insufficiently described, their description was the aim of the present work. The authors used (1) furfurole, (2) acetophenone. The polymers were obtained (I) directly from the reaction mass without separation from monofurfurylidene acetophenone (MFAP), (II) by way of resinification of MFAP. The product produced by Harvey's method (Ref. 8: USA Patent 2,461,510 (1949)) loses fluidity on the passage to the B stage. Hardening takes place at 250°C during 30 minutes with the separation of 50 % of volatile parts. The authors washed the reaction mass with cold water, dried it at 100°C and 15 mm Hg during 3 hr, thus obtaining a brown oily liquid. A vacuum distillation yielded: 14 % furfurole, 16 % acetophenone, 60 % MFAP, 10 % resin. After 3.5 hr of heating at 250°C a fusible black resin (dropping point 65°C) was obtained. On addition of 5 % benzene sulfonic acid (50 % acetone solution) the resin is hardened during 19 minutes at 250°C under separation of 40 % of volatile parts and

formation of foaming products. Table 1 shows that in MFAP production under optimum, equimolecular conditions, a temperature drop (experiments 1 - 5) reduces the resin formation and at the same time retards the MFAP formation. An increase of the catalyst amount (experiments 4,6,7,9-12) and a concentration increase of its aqueous solution (experiments 10 - 11), however, speed it up. At room temperature (experiments 8 - 12), MFAP is obtained without resin. 20 g KOH in 20 g H_2O were added by drops to 96 g furfurole and 120 g acetophenone within 20 - 30 minutes, neutralized with 0.5 N HCl, washed with H_2O until Cl^- ions were removed completely, and dried in vacuum. MFAP is bright-yellow, fine-crystalline with the melting point 41.8°C, and 89 % of the theoretical yield, soluble in all organic solvents (to 12 % in petroleum ether). Its specific gravity was 1.1'20, the boiling point 186°C at 11 mm Hg, 181°C at 9 mm Hg The molecular weight, cryoscopically determined in dioxan was 196.5, the oxime number was 560, since benzylidene acetophenone compounds add two hydroxyl amine molecules. Resinification took place (I) thermally, (II) in the presence of a catalyst. According to Table 3, resinification takes place at high temperatures (250°C) with 95 - 97 % yield. Since benzene sulfonic acid (BSA) and H_2SO_4

(Table 4)dissolve in the monomer, the latter was heated to 80° C in a three-necked flask, and 1 - 5 % catalyst was added under vigorous stirring. The resin obtained in a yield of 98 % was brittle at room temperature. 0.25 M (42.5 g) monomer in 100 ml toluene yielded with 5 % BSA (referred to the monomer) a viscous, rubber-like mass which gradually hardened to a non-melting, unsoluble polymer. All resins were black, with a shining surface, and a specific gravity of 1.1 - 1.5. The dropping point of the resin obtained without BSA was 71°C; that of resin prepared with 1 % BSA was 78°C. The resins were found to be well soluble in benzene, its derivatives, dioxan, chlorohydrocarbon, various ketones (cyclohexanone), scarcely in alcohols and ethers. Fractionating allowed recognizing a polydisperse character. Four fractions were separated from a 10 % acetone solution: (1) insoluble residue, (2) and (3) were separated by addition of 10 ml H_2O to a 100 ml solution, (4) by means of 1000 ml H_2O. Infrared spectra for resins produced without (I) and with (II) catalyst yielded CO bands (1685 1665 cm^{-1}) and double bond bands (1647 - 1621 cm^{-1}) in the conjugate -C=C-O-system. The double bond peaks were, however, found to be weaker particularly with (I). The peak of ethylene bond(1285 - 1310 cm^{-1}) exists only with monomer and (II). The absorption band of the furan ring

Synthesis and study of monomeric...

(1131 - 1189 cm^{-1}) is weaker with (I) and (II) than with the monomer. The peaks of the benzene nucleus (1110 - 1070 cm^{-1}) appear in the three spectra, whereas the furan ring bound in $\alpha\alpha'$-position (1378 cm^{-1}) was found only with (I) and (II). There are 1 figure, 5 tables, and 15 references: 6 Soviet-bloc and 9 non-Soviet-bloc. The references to English-language publications read as follows: Ref. 7: US Patent 2,461,508 (1949); Ref. 8: US Patent 2,461,510 (1949); Ref. 9: US Patent 2,768,408 (1956)

Card 5/8

36191
S/191/62/000/004/004/017
B110/B138

15.8350

AUTHORS: Kamenskiy, I. V., Tsepelev, A. S., Kogan, N. N., Andrianov, B. V.

TITLE: Urea acetone formaldehyde resins

PERIODICAL: Plasticheskiye massy, no. 4, 1962, 9-12

TEXT: МФА-1 (MFA-1) with 72 % dry residue, 620 sec viscosity and 1 % free formaldehyde was tested for suitability as a basis for glues and as a binder for glass textolite and shell molds. Catalysts used were: 10 % aqueous oxalic acid, 50 % orthophosphoric acid, 10 % hydrochloric acid, and 30 % NH_4Cl. Activity decreases in the order: NH_4Cl, ortho-phosphoric acid, hydrochloric acid, oxalic acid. The hardened films are only stable with oxalic or orthophosphoric acid. The lifetime of resin hardened with 10 % aqueous oxalic acid (2 % referred to dry resin) was 7.5 hr, at 10°C, 0.6 hr at 50°C. With 2 % catalyst, it was 4.5 hr, with 10 %, 0.5 hr. 1.6 % volatiles with 5 % formaldehyde and 95 % H_2O were separated by hardening with 2 % oxalic acid. 0.5 N aqueous KOH caused

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Urea acetone formaldehyde resins

swelling and cracking, 25 % H_2SO_4 destroyed the sample. Films hardened with oxalic acid remained unchanged in very moist air, keeping their luster. The ultimate tensile strength was 48.4 kg/cm^2. Glass textolite (ГОСТ 8481-57 (GOST 8481-57)) was hot or cold molded with resin, ratio 6:4. Glass fabric impregnated with resin (dry residue 70 %) was dried for 1.5-2.5 hr at 100-110°C. Non-laminated specimens were obtained at 160°C, 250 kg/cm^2, and 4 min/mm. Glass fabric impregnated with the resin and 50 % orthophosphoric acid was held at room temperature for 1.5-2 hr, and pressed at 1.5-2 kg/cm^2 for 8-24 hr. The resulting glass textolite had: 0.5 % hygroscopicity after 1 day, 1.1 % after 5 days, 108°C Martens thermal stability, 205 kg·cm/cm^2 specific impact toughness, and 1350 kg/cm^2 tensile strength in bending. 100 parts by weight of sand (K100/200) and 6 parts by weight of resin (dry residue 41 %, viscosity 4-18 sec) were mixed for producing shell molds and rods for casting. Tensile strength was 26.6-68.2 kg/cm^2 in tension and 82.4-123.0 kg/cm^2 in bending. There are 6 figures and 2 tables. The most important English-language reference reads as follows: Hodgins, Hovey, Ind. Eng. Chem., 33, no. 6, 769 (1941).

Card 2/2

ANDRIANOV, B.V., kand. istoricheskikh nauk

Problems concerning the agricultural reclamation of lands irrigated in the remote past; conference of the Commission on the Practical Use of Historical Data in the National Economy. Vest. AN SSSR 34 no.7:117-118 Jl '64 (MIRA 17:8)

ANDRIANOV, D.G.; DAKHOVSKIY, I.V.; ONEL'YANOVSKIY, E.N.; FISTUL', V.I.

Anisotropic electron scattering in heavily doped germanium.
Fiz. tver. tela 6 no.9:2825-2830 S '64. (MIRA 17:11)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti, Moskva.

L 10776-65 EWT(m)/EWP(b) P(c)/ESD(t)/ESD(gs)/ASD(a)-5/AS(mp)-2/SSD/AFWL JD

ACCESSION NR: AP4044958 S/0181/64/006/009/2825/2830

B

AUTHORS: Andrianov, D. G.; Dakhovskiy, I. V.; Omel'yanovskiy, E. M.; Fistul', V. I.

TITLE: Anisotropic scattering of electrons in heavily doped germanium

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2825-2830

TOPIC TAGS: germanium, electron scattering, electron mobility, galvanomagnetic effect, impurity scattering, phonon scattering

ABSTRACT: Comparison of the values of the electron mobility in heavily doped n-type germanium, determined by Fistul', Iglitsyn, Omel'yanovskiy, and Andriyanov (FTT, 4, 1065, 1370, 1962; 6, 470, 1964), with the theory of scattering by acoustical phonons and ionized impurities has failed to give even qualitative agreement. The present paper compares the theory of the anisotropic scattering

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L 10776-65
ACCESSION NR: AP4044958

2

with the galvanomagnetic effect data (reference as above) for As-doped n-type germanium obtained for a wide range of impurity concentrations and temperatures. Expressions are obtained for the components of the relaxation time tensor in the case of scattering from impurity ions in general. It is shown that the electron scattering in heavily doped germanium is basically anisotropic and that the components of the effective mass tensor are independent of the impurity concentration and temperature. "The authors thank Prof. A. G. Samoylovich for discussing the results and for advice." Orig. art. has: 2 figures, and 9 formulas.

ASSOCIATION: Gosudarstvenny*y nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promy*shlennosti, Moscow (State Scientific-Research and Design Institute of the Rare-Metal Industry)

SUBMITTED: 20Jan64 ENCL: 00

SUB CODE: SS NR REF SOV: 010 OTHER: 003

Card 2/2

FISTUL, V. I.; OMELYANOVSKIY, E. M.; ANDRIANOV, D. G.; DAKHOVSKIY, I. V.

"The scattering of electrons in heavily-doped germanium."

report submitted for Intl Conf on Physics of Semiconductors, Paris, 19-24 Jul 64.

Andrianov, D.G

5.4600

5(4) SOV/20-130-2-37/69

AUTHORS: Fistul', V. I., Andrianov, D. G.

TITLE: Adsorption-induced Changes in the Surface Conductivity of Germanium

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 2, pp 374 - 376 (USSR)

ABSTRACT: It was the aim of the present paper to find out in what way surface conductivity changes if the germanium electrode during etching adsorbs impurities from the etching medium. The experiments were made with monocrystalline n-germanium which had a resistivity of 40 ohm.cm. The etching reagent was produced from HNO_3, HF, and CH_3COOH in a ratio of 3:2:1. The acids were twice distilled, so that their impurity-content did not exceed 10^{-6}%. During the experiments the etching reagent was given additions of Cu, K, Cr, Fe, Zn, Cd, Ca, Ag and the change in surface conductivity was measured (Table 1). As shown by figure 1, surface conductivity increases if the etching reagent contains impurities of Fe, Cu, K, Cr, Ca or Ag. On the other hand, surface

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L 17970-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD

ACCESSION NR: AP3000635 S/0181/63/005/005/1480/1483

AUTHORS: Andrianov, D. G.; Fistul', V. I.

TITLE: Magnetoresistance in degenerate p-type germanium and silicon

SOURCE: Fizika tverdogo tela, v. 5, no. 5, 1963, 1480-1483

TOPIC TAGS: degenerate semiconductor, p-type semiconductor, Ge, Se, magnetoresistance, kinetic coefficient, Fermi level

ABSTRACT: The basis of calculation is a simple anisotropic model which assumes a certain number of minimums on an energy surface in quasi-momentum space, as employed in the work of B. Abeles and S. Meiboom (Phys. Rev., 95, 31, 1954). Values of kinetic coefficients were tabulated. From these values curves may be plotted to show dependence of the coefficients on the Fermi level, and a comparison of experimental data with these curves permits one to investigate whether the anisotropy factor in a coefficient changes with increase in degree of degeneracy. Orig. art. has: 1 figure, 1 table, and 12 formulas.

ASSOCIATION: Gosudarstvenny*y nauchno-issledovatel'skiy i proyektny*y institut redkometallicheskoy prony*shlennosti, Moscow (State Scientific-Research and Planning Institute for the Rare-Metal Industry)

Card 1/2

ACCESSION NR: AP4013506 S/0181/64/006/002/0470/0474

AUTHORS: Andrianov, D. G.; Fistul', V. I.

TITLE: Reluctance of highly doped n type germanium in weak mangetic fields

SOURCE: Fizika tverdogo tela, v. 6, no. 2, 1964, 470-474

TOPIC TAGS: reluctance, germanium, n type germanium, magnetic field, weak magnetic field, anisotropy, conduction band, arsenic, arsenic doped germanium, resistivity, Hall constant

ABSTRACT: The authors have measured the reluctance, resistivity, and Hall constant of n-type germanium at 77 and 300K in samples oriented in the [100] and [110] directions. The samples were doped with arsenic in concentrations ranging from 10^{16} to $2 \cdot 10^{19}$ cm^{-3}. The samples were oriented by x-ray technique and were cut ultrasonically in the (100) plane along the above indicated crystallographic axes. The dependence of reluctance on magnetic field strength was found to be quadratic for all specimens in the range of magnetic fields tested. The authors conclude that the standard model for the conduction band of four ellipsoids of

Card 1/2